subject to comprehensive safety reviews. The Atomic Energy Regulatory Board (AERB) reviews the safety aspects of operating nuclear power plants from time to time before authorising continued operation.

Finding of Kaiga Nuclear Accident

1337. SHRI TRILOKI NATH CHATURVEDI:

DR. MURLI MANOHAR JOSHI:

Will the *PRIME MINISTER* be pleased to state:

(a) whether Government have completed the enquiry of the collapse of concrete dome of Kaiga Nuclear Power Plant and if so, what are the findings and what is the estimated loss;

(b) when was the plant originally scheduled to be completed and by when it is now expected to be commissioned;

(c) what was the original cost of the project and what will be the revised cost; and

(d) whether AERB is systematically going into the safety measures of all the atomic power plants, if so, what are the findings and if not, whether Government propose to undertake such a study and if so, by when?

THE MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE (SHRI BHUVNESH CHATURVEDI): (a) The Committees of Experts constituted by Nuclear Power Corporation of India Limited (NPCIL) and Atomic Energy Regulatory Board (AERB) in connection with failing of a inner portion of concrete from the under surface of inner containment dome of reactor building of Kaiga Unit-1 are yet to submit their reports. The indicative loss on account of the incident is of the order of Rs. 2.5 Crore. The exact loss due to this incident and the cost of reconstruction of the dome will be known after the Committees inquiring into the causes for the failure of the dome submit their reports.

(b) Unit-1 of Kaiga Plant was originally scheduled to achieve criticality in June 1995 and Unit-2 in December, 1995. After a mid term review the Schedule was revised to June 1996 and December 1996 respectively. No revision in the schedules is envisaged as of now due to the dome incident as rehabilitation of the dome is proposed to be taken up simultaneously with the other works.

(c) The original cost of the project as sanctioned in June 1987 which did not contain the element of Interest During Construction (IDC) is Rs. 730.72 Crore. The revised cost estimates for the project have been proposed at Rs. 2275 Crore including a sum of Rs. 685 Crore being the IDC. There is no proposal to make a review of the cost estimates on account of the dome incident which took place on May 13, 1994.

(d) The AERB has set up a multitier review procedure to enforce safety measures in all the atomic power plants. The radiation doses to workers in the nuclear power plants are well within the limits stipulated by the AERB.

These does not measured by the Health Physics Unit attached to each power station. Regular reports from these units are received by the AERB. The radioactive releases from the nuclear power stations are monitored regularly to ensure that they are within permissible limits.

Environmental Survey Laboratories outside the exclusion zone of each nuclear power station routinely collect and measure the radioactivity concerntrations in samples of food, air, water upto 30 kms. from the power station. The radiation dose to population in the vicinity of

the nuclear power stations is too small to be measured. The estimated values are well within the dose limites prescribed by the AERB for members of the public.

Review of safety status and enforcement of safety measures is a continuing process and the AERB is performing these tasks as per the statutory requirements.

Kakrapar Atomic Power Station affected by flood waters

1338 SHRI VIREN J. SHAH: Will the PRIME MINISTER be pleased to state:

(a) whether it is a fact that flood waters had entered the turbine room of the Kakrapar Atomic Power Station in Gujarat which badly affected the plant;

(b) if so, what is the extent of the damage and what safetv measures were taken;

(c) by when and at what approximate cost the necessary repairs will be carried out in the plant;

(d) by when the plant will be recommissioned;

(e) what will be the extent of loss due to the non-working of the plant; and

(f) what steps Government have already taken or propose to take to obviate the chances of such reeurrence in future?

THE MINISTER OF STATE IN THE PRIME MINISTER'S OFFICE (SHRI BHUVNESH CHATURVEDI): (a) and (b) On June 16, 1994, due to very havey rains in Kakrapar area the water level in the Mothicher lake from where the make up cooling water for the Kakrapar Atomic Power Project is being taken, started rising alarmingly and due to inadequate outflow of water, the flood waters entered the piant sorroundings and the basement of the turbine buildings of the Project. There was no major damage to the plant and equipment installed in the basement of the turbine buildings. Some equipment like motors located in the basement were affected. Dewatering of turbine building basement and rehabilitation of the affected equipment have since been completed.

(c) to (e) Kakrapar Atomic Powes Station consists of two units of 220M We each. Unit-i of the plant was already under planned shutdown at the time of flooding. The unit is expected to be back on line after completing planned shutdown maintenance jobs shortly. Unit-Z is due for commissioning shortly. The rehabilitation jobs did not involve any maior expenditure and were carried out as part of regular maintenance jobs. As such there is no loss due to the non-working of the Z units at Kakrapar.

(f) Nuclear Power Corporation of India Ltd. has already taken up the matter with the Irrigation Department of the Govt. of Gujarat for continuous monitoring of the water level in the Kakrapar weir during monsoon and to take prompt action to avoid recurrence of such flooding in future. All possible preventive actions for avoiding overflow of water into the Plant site have also been taken.

Safety aspect of nuclear reactors

1339 MISS SAROJ KHAPARDE: Will the PRIME MINISTER be pleased to state:

(a) whether all the Nuclear Reactors working in India at present are safe;

(b) if so, the details thereof;